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MEMORANDUM FOR: Assistant Deputy Director for Intelligence *Eump*

SUBJECT : Request for Approval to Extend a Contract with the [] for the Development of a Dry Photographic Process at a Cost of [] from FY-71 R&D Funds

25X1 1. This memorandum requests approval to commit FY-71 funds for the extension of a research and development contract with the [] . The specific request is stated in Paragraph 6.

25X1 2. There is a long-standing requirement for a rapid and inexpensive means of reproducing imagery for use in the photo interpretation process. Such reproductions are used for individual study, display, and analysis. The nature of traditional photographic processing is such that reproduction requires fairly extensive plumbing, complex chemistry, and sophisticated processing and drying equipment. In 1964, the [] demonstrated a very high resolution photo-duplication material which required only heat for development and which contained one-third less silver than conventional photographic material. In subsequent years, NPIC has participated in the funding of this development in order to direct research toward our specific goals. Work has proceeded in five separate but related areas: negative-acting film and paper, positive-acting film, dry diazo film and paper, and sheet processors. All of these areas, with the exception of the negative-acting and positive-acting films, are either completed already or will be completed by 30 September 1970. A detailed description of the proposed work in the latter two areas follows:

25X1 a. Dry Silver Negative Acting Film (Task I) - Normal photographic reproduction of film transparencies uses a negative to produce a positive work copy. This Dry Silver development is aimed at simplifying this production by use of hot air processing to replace the wet chemistry. Work under this task has already produced

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25X1 usable materials. In addition, the technology gained from this basic Dry Silver development is either directly or indirectly applicable to the other Dry Silver efforts. Although nearly all of the goals have been met, additional work is needed to improve the film's archival stability and speed to the level required for good production standards. Funding in FY-71 will be approximately [redacted] NRO has been funding Task I. However, it is estimated that 40% of the research under Task I is now directly applicable to Task III. NRO has agreed to fund 60% of Task I, or approximately [redacted] with NPIC funding the other [redacted] as part of the positive-acting film and paper development effort. 25X1

25X1 b. Dry Silver Positive-Acting Film & Paper (Task III)
This effort is aimed toward the development of a single-step (positive-to-positive) photographic reproduction film and paper. This would eliminate the use of a two-step internegative process or the storage and retrieval of a film negative for use in reproducing duplicate positive film transparencies. Additionally, paper prints and photo enlargements could be made directly from film positives. The savings in time and materials for a one-step photo-reproduction system are self-evident. This positive-acting film is the most recent Dry Silver material to be developed and, as such, still requires some basic research despite the fact that significant advances have been made over the last eight months. Although, there are still technical risks involved with this development, the potential payoff for a dry process, positive-acting material is tremendous, including possible savings in both costs and time, and in image resolution and quality. Realization of this potential, however, will require improvements in gamma control (contrast control) and processing sensitivity for the positive acting material. The FY-71 expenditure will be approximately [redacted] Additional funding will probably be required for FY-72. 25X1

The deliverable items for these two tasks will be monthly progress reports and samples of developed materials. 25X1

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25X1 3. Because of the potential commercial application of this system, [redacted] has naturally joined heavily in a cost-sharing R&D funding, spending [redacted] of its own for every [redacted] supplied by the Government. At the present time, some of the dry process materials are in the pilot plant scale-up phase, which is wholly [redacted] supported. The cost-sharing burden is now more like [redacted] with the [redacted] absorbing the cost of materials and coatings. 25X1

25X1 4. This project is fully coordinated with the intelligence community through EXRAND. In addition, continuing coordination is maintained with other Army, Navy, Air Force, and Agency components having a known interest in dry silver projects.

25X1 5. [redacted] will be the project officer for this contract. The Sterility Code [redacted] is appropriate for this project; Agency association with the contract will be CONFIDENTIAL, but the project title and work will be UNCLASSIFIED. 25X1

25X1 6. It is requested that approval be granted to negotiate a contract with the [redacted] at a cost not to exceed [redacted] and to be charged against Category V FY-71 R&D Funds 25X1

[redacted] 25X1
ARTHUR C. LUNDABL

Director

National Photographic Interpretation Center

Attachments:

1. Proposal
2. Form 2420

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25X1 APPROVED: [redacted]

Assistant Deputy Director for Intelligence

25 SEP 1970

Date

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